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EXAMINER
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GRAHAM, CLEMENT B

ART UNIT	PAPER NUMBER
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3691

NOTIFICATION DATE	DELIVERY MODE
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06/11/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

efiling@cojk.com

<b>Office Action Summary</b>	<b>Application No.</b> 09/546,031	<b>Applicant(s)</b> KEITH, CHRISTOPHER	
	<b>Examiner</b> Clement B. Graham	<b>Art Unit</b> 3691	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22, 24 and 26-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22, 24 and 26-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/19/09</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Claims 1-22, 24, 26-41 remained pending.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

3. Claims 1-22, 24, 26-41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferstenberg et al, ( Herein after Ferstenberg U.S Patent 6, 968, 318) in view of Keiser et al, ( Hereinafter Keiser U.S Patent 6, 505, 174).

As per claims 1, Ferstenberg discloses a computer-implemented method of providing a published price for a security, wherein the published price is available to a plurality of market participants in a market to execute a trade for the security, the method comprising:  
under control of instructions executed by one or more processors in a computer system:  
notifying a set of first computer processes of a proposed price for buying or selling the security(see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10)  
wherein the set of first computer processes represents a subset of the plurality of market participants, and wherein a trade for the security at the proposed price is not executable at the market (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and if an improved price has been offered, providing the improved price as a published price to the plurality of market participants, wherein the market participants can execute a trade for the

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security at the published price, and wherein the notifying, determining, and providing are performed by a second computer program process executing on a computer.

However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25 and column 28 lines 1-6).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to include determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and if an improved price has been offered, providing the improved price as a published price to the plurality of market participants, wherein the market participants can execute a trade for the security at the published price, and wherein the notifying, determining, and providing are performed by a second computer program process executing on a computer taught by Keiese in order to allow a participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer.

As per claims 2, Ferstenberg discloses wherein, when there is no improved price, the proposed price is provided as the published price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 3, Ferstenberg discloses further comprising waiting for a predetermined time interval after notifying the first computer processes before determining whether any of the first

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computer processes has offered an improved price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claim 4, Ferstenberg discloses further comprising receiving a plurality of improved prices from two or more of the first computer processes during the predetermined interval, and selecting the best of the improved prices as the published price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claim 5, Ferstenberg discloses wherein an improved price first offered by any of the first computer processes is selected as the published price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 6, Ferstenberg discloses further comprising, prior to notifying the first computer processes of the proposed price, comparing a current book price to a most recent trade price and deciding to notify the first computer processes of the proposed price when the current book price is different than the most recent trade price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claim 7, Ferstenberg discloses, a computer-implemented method of participating in pricing of a security at a market at which trades are made with respect to the security, the method comprising:

under control of instructions executed by one or more processors in a computer system:

receiving a proposed price for the security from a second computer process, wherein the second computer process is providing the market, and wherein a trade for the security at the proposed price is not executable at the market (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach determining whether to improve upon the proposed price for the security by offering an improved price that is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and when the determination is affirmative, offering the improved price to the second computer process, which improved price can be provided by the second computer process as a published price to a plurality of market participants at the market, and a trade at the published price being executable by the market participants at the market, wherein the receiving, determining and offering are performed by a first computer process executing on a computer.

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However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to determining whether to improve upon the proposed price for the security by offering an improved price that is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and when the determination is affirmative, offering the improved price to the second computer process, which improved price can be provided by the second computer process as a published price to a plurality of market participants at the market, and a trade at the published price being executable by the market participants at the market, wherein the receiving, determining and offering are performed by a first computer process executing on a computer taught by Keiser in order to allow a participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer.

As per claim 8, Ferstenberg discloses further comprising requiring the first computer process to register with the second computer process to receive proposed prices for trading the security (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claim 9, Ferstenberg discloses further comprising receiving at the first computer process a published price from the second computer process, deciding whether the published price is satisfactory to complete a transaction, and when the decision is that the published price is

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not satisfactory, then registering the first computer process with the second computer process without booking an order for the security (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 10, Ferstenberg discloses , wherein the determining is automatically performed in accordance with a strategy predefined in execution of the first computer process(see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 11, Ferstenberg discloses wherein the determining is performed in accordance with an instruction received from a controller in response to a transmission of the proposed price to the controller price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 12, Ferstenberg discloses a computer-implemented method of setting a price for a security, the method comprising:

under control of instructions executed by one or more processors in a computer system: maintaining an order book for a market at which trades are made with respect to the security, said order book including orders to buy or sell specified quantities of the security at respective prices, the lowest sell order price of the booked orders being the book sell price, the highest buy order price of the booked orders being the book buy price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach engaging in a price discovery procedure with a set of first computer processes before responding to a request for a current buy or sell price of the security, wherein the price discovery procedure produces a discovered price for the security, and providing the discovered price as the current buy or sell price of the security to a plurality of market participants participating in the market, the discovered price being higher than the book buy price or lower than the book sell price, wherein the maintaining, engaging and providing are performed by a second computer process executing on a computer .

However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice

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versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to include engaging in a price discovery procedure with a set of first computer processes before responding to a request for a current buy or sell price of the security, wherein the price discovery procedure produces a discovered price for the security, and providing the discovered price as the current buy or sell price of the security to a plurality of market participants participating in the market, the discovered price being higher than the book buy price or lower than the book sell price, wherein the maintaining, engaging and providing are performed by a second computer process executing on a computer taught by Keiser in order to allow a participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer.

As per claims 13, Ferstenberg discloses wherein the price discovery procedure includes providing the book buy or sell price to at least one process of the first computer processes (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 14, Ferstenberg discloses wherein the at least one process provides an improved price higher than the book buy price or lower than the book sell price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 15, Ferstenberg discloses wherein a temporal duration of the price discovery procedure is predetermined price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 16, Ferstenberg discloses wherein a temporal duration of the price discovery procedure is based on an amount of activity occurring during the price discovery procedure price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).



As per claims 17, Ferstenberg discloses wherein the first computer process each represent an order for the security that has not been booked price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 18, Ferstenberg discloses wherein the first computer processes each represent an order for the security that has not been booked price(see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 19, Ferstenberg wherein the notifying determining, and providing are performed automatically without human intervention price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 20, Ferstenberg further comprising requiring the first computer process to register with the second computer program entity to participate in the price discovery procedure price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 21, Ferstenberg wherein the at least one entity automatically provides the improved price based on a strategy that is predetermined in execution of the at least one process (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 22, Ferstenberg discloses wherein the at least one process provides the improved price based on a strategy that is predetermined in execution of the at least one process and wherein the strategy of the at least one computer process is determined independently of strategies for other first computer process price(see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 24, Ferstenberg discloses wherein the proposed price is determined by the second computer process based on a booked order in an order book price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 26, Ferstenberg wherein the proposed price is determined by the second computer process based on a booked order in an order book price(see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 27, Ferstenberg discloses a computing system for providing a published price for a security to a plurality of market participants at a market at which trades are made with respect to the security, the system comprising:  
a notification component executing on at least one computer processor, wherein the notification

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component is configured to notify a set of the plurality of market participants of a proposed price for trading the security, and wherein a trade for the security at the proposed price is not executable at the market (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach and an evaluation component executing on at least one computer processor, wherein the evaluation component is configured to determine whether any of the set of market participants has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying or lower than the proposed price for selling, and if an improved price has been offered, then providing the improved price as the published price to the plurality of market participants, wherein the notification component is configured to notify the set of market participants of the proposed price prior to the evaluation component providing the published price, and wherein the market participants can execute a trade for the security at the published price.

However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to include and an evaluation component executing on at least one computer processor, wherein the evaluation component is configured to determine whether any of the set of market participants has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying or lower than the proposed price for selling, and if an improved price has been offered, then

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providing the improved price as the published price to the plurality of market participants, wherein the notification component is configured to notify the set of market participants of the proposed price prior to the evaluation component providing the published price, and wherein the market participants can execute a trade for the security at the published price taught by Keiser in order to allow a participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer

As per claims 28, Ferstenberg discloses wherein, when there is no improved price, the computing system is configured to provide the proposed price as the published price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 29, Ferstenberg discloses wherein the computing system is further configured to wait for a predetermined time interval after notifying the set of market participants of the proposed price before determining whether any of the set of market participants has offered an improved price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 30, Ferstenberg discloses wherein if a plurality of improved prices is received from two or more of the market participants during the predetermined interval, the computing system is configured to provide the best of the improved prices as the published price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 31, Ferstenberg discloses wherein the computing system is configured to provide an improved price first offered by any of the market participants as the published price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 32, Ferstenberg discloses wherein prior to notifying the set of market participants of the proposed price, the computing system is configured to compare a current book price to a most recent trade price and decide to notify the set of market participants of the proposed price when the current book price is different than the most recent trade price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

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As per claims 33, Ferstenberg discloses wherein the computing system is configured to notify, determine, and provide the published price automatically without human intervention price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 34, Ferstenberg discloses a computer-accessible storage medium containing computer program instructions that, when executed, cause a computer to participate in pricing of a security by:

receiving a proposed price for the security from a computer process, wherein the computer process is providing a market at which trades are made with respect to the security, and wherein a trade for the security at the proposed price is not executable at the market (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach determining whether to improve upon the proposed price for the security by offering an improved price that is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and when the determination is affirmative, offering the improved price to the computer process which improved price can be provided by the second computer process as a published price to a plurality of market participants at the market, and a trade at the published price being executable by the market participants at the market.

However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to include determining whether to

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improve upon the proposed price for the security by offering an improved price that is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and when the determination is affirmative, offering the improved price to the computer process which improved price can be provided by the second computer process as a published price to a plurality of market participants at the market, and a trade at the published price being executable by the market participants at the market taught by Keiser in order to allow a participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer.

As per claims 35, Ferstenberg discloses wherein the instructions, when executed, cause the computer to register with the second computer process for the purpose of receiving proposed prices for trading the security price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 36, Ferstenberg discloses wherein the instructions, when executed, further cause the computer to receive a published price from the computer process, decide whether the published price is satisfactory to complete a transaction, and when the decision is that the published price is not satisfactory, then register with the second computer process without booking an order for the security price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 37, Ferstenberg discloses wherein the instructions cause the computer automatically determine whether to improve upon the proposed price in accordance with a predefined strategy price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

As per claims 38, Ferstenberg discloses a computing system for providing a published price for a security, wherein the published price is available to a plurality of market participants in a market to execute a trade for the security, the system comprising:  
means for notifying a set of first computer processes of a proposed price for buying or selling the security, wherein said notifying occurs prior to providing the published price, and wherein a trade for the security at the proposed price is not executable at the market (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach means for determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying or lower than the proposed price for selling, and means for providing the improved price as the published price to the plurality of market participants if an improved price has been offered wherein the market participants can execute a trade for the security at the published price.

However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to include means for determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying or lower than the proposed price for selling, and means for providing the improved price as the published price to the plurality of market participants if an improved price has been offered wherein the market participants can execute a trade for the security at the published price taught by Keiser in order to allow a participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer.

As per claims 39, Ferstenberg discloses 39. (Currently amended) A computing system for setting a price for a security, comprising:

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means for maintaining an order book for a market at which trades are made with respect to the security, said order book including orders to buy or sell specified quantities of the security at respective prices, the lowest sell order price of the booked orders being the book sell price, the highest buy order price of the booked orders being the book buy price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach means for engaging in a price discovery procedure with a set of first computer processes before responding to a request for a current buy or sell price of the security, wherein the price discovery procedure produces a discovered price for the security, and means for providing the discovered price as the current buy or sell price of the security to a plurality of market participants participating in the market, the discovered price being higher than the book buy price or lower than the book sell price.

However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to include means for engaging in a price discovery procedure with a set of first computer processes before responding to a request for a current buy or sell price of the security, wherein the price discovery procedure produces a discovered price for the security, and means for providing the discovered price as the current buy or sell price of the security to a plurality of market participants participating in the market, the discovered price being higher than the book buy price or lower than the book sell price taught by Keiser in order to allow a

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participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer.

As per claim 40, Ferstenberg discloses a computer-accessible storage medium containing computer program instructions for providing a published price for a security, wherein the published price is available to a plurality of market participants in a market to execute a trade for the security, wherein the instructions, when executed, cause a computer to, notify a set of first computer processes of a proposed price for buying or selling the security, wherein a trade for the security at the proposed price is not executable at the market (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

Ferstenberg fail to explicitly teach determine whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying or lower than the proposed price for selling, and if an improved price has been offered, provide the improved price as the published price to the plurality of market participants, wherein the market participants can execute a trade for the security at the published price.

However Keiser discloses the system includes a virtual specialist program which, among other things, handles fulfillment of buy and sell orders. In the embodiment of the present system, the virtual specialist program controls the economy, and provides it with liquidity. In one embodiment, the virtual specialist program provides instantaneous liquidity by fulfilling all orders, whether or not there are equal and matching sell orders to offset buy orders, and vice versa. The system keeps a running net movement balance for the quantity of buy or sell trades which the virtual specialist program had to fulfill without offsetting sell or buy trades. The imbalance is stored as a positive number if the buy-sell imbalance represents more buy trade orders executed than sell orders, or a negative number if the buy-sell imbalance represents more sell orders executed than buy orders (Note abstract and column 6 lines 45-65 and column 27 lines 10-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ferstenberg to include determine whether any of the first computer processes has offered an improved price for the security, wherein the



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improved price is higher than the proposed price for buying or lower than the proposed price for selling, and if an improved price has been offered, provide the improved price as the published price to the plurality of market participants, wherein the market participants can execute a trade for the security at the published price taught by Keiser in order to allow a participant to receive fairly complete information about offers submitted by such participant and the status of such offers and allows a customer who submits an order to a participant system to receive fairly complete information about offers submitted by such customer.

As per claim 41, Ferstenberg discloses wherein the instructions, when executed, further cause the computer to compare a current book price to a most recent trade price and decide to notify the first computer processes of the proposed price when the current book price is different than the most recent trade price (see column 45 lines 39-64 and column 49 lines 63-67 and column 50 lines 1-10).

## **CONCLUSION**

### **Response to Arguments**

4. Applicant's arguments files on 8/27/09 have been fully considered but are not persuasive for the following reasons.

5. In response to Applicant's arguments that Ferstenberg and Keiser fails to teach or suggest" notifying a set of first computer processes of a proposed price and notifying a set of first computer processes of a proposed price for buying or selling the security and determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and if an improved price has been offered, providing the improved price as the published price to the plurality of market participants and determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and if an improved price has been offered, providing the improved price as the published price to the plurality of market participants and receiving a proposed price for the security from a second computer process, wherein the second computer process is providing the market, and wherein a trade for the security at the proposed

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price is not executable at the market and determining whether to improve upon the proposed price for the security by offering an improved price that is higher than the proposed price for buying or lower than the proposed price for selling. The Examiner disagrees with Applicant's because the limitations were addressed as stated.

Regarding arguments that Ferstenberg fail to teach notifying a set of first computer processes of a proposed price and notifying a set of first computer processes of a proposed price for buying or selling the security and determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and if an improved price has been offered, providing the improved price as the published price to the plurality of market participants

The examiner points to sections of Ferstenberg where quotes/trade are broadcast and discovery of prices, and a database that provides up to the moment prices of multiple commodities and the prices information in response to queries and exchanging offers and counter offers as detailed in the present Office Action given that the fact Ferstenberg specifically teaches publishing of prices and the notification of prices.

Regarding arguments that Keiser fail to teach determining whether any of the first computer processes has offered an improved price for the security, wherein the improved price is higher than the proposed price for buying the security or lower than the proposed price for selling the security, and if an improved price has been offered, providing the improved price as a published price to the plurality of market participants, wherein the market participants can execute a trade for the security at the published price, and wherein the notifying, determining, and providing are performed by a second computer program process executing on a computer.

The examiner points to sections of Keiser wherein matching projected price movements for trade orders by retrieving a matching security price threshold from a database and setting a projected price movement for securities therefore Keiser the setting of a projected price represent price improvement.

Further claim 1 state in the preamble a computer-implemented method of providing a published price for a security, wherein the published price is available to a plurality of market participants

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in a market to execute a trade for the security, the method comprising but in the body of the claim there is no actual trade that is executed.

6. With respect to Applicant's argument, that the Office Action fail establish a prima facie case of obviousness, the Examiner respectfully submits that obviousness is not determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See *In re Oetiker*, 977F. 2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Hedges*, 783F.2d 1038, 1039, 228 USPQ\* 685, 686 (Fed. Cir.1992); *In re Piaseckii*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir.1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Using this standard, the Examiner respectfully submits that he has at least satisfied the burden of presenting a prima facie case of obviousness, since he has presented evidence of corresponding claim elements in the prior art and has expressly articulated the combinations and the motivations for combinations that fairly suggest Applicant's claimed invention. Note, for example, in the instant case, the Examiner respectfully notes that each and every motivation to combine the applied references are accompanied by select portions of the respective reference(s) which specially support that particular motivation and /or an explanation based on the logic and scientific reasoning of one ordinarily skilled in the art at the time of the invention that support a holding of obviousness. As such, it is not seen that the Examiner's combination of references is unsupported by the applied prior art of record. Rather, it is respectfully submitted that explanation based on the logic and scientific reasoning of one of ordinarily skilled in the art at the time of the invention that support a holding of obviousness has been adequately provided by the motivations and reasons indicated by the Examiner, *Ex pane Levengood*, 28 USPQ2d 1300(Bd. Pat. App &.,4/293 Therefore the combination of reference is proper and the rejection is maintained.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

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1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B. Graham whose telephone number is 571-272-6795. The examiner can normally be reached on 7am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Kalinowski can be reached on (571) 272-6771. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander Kalinowski/

Supervisory Patent Examiner, Art Unit  
3691

CG

March 20, 2010